

# LIMITED SAMPLING STRATEGIES TO ESTIMATE GLOMERULAR FILTRATION RATE IN CATS WITH LOW, NORMAL AND HIGH GLOMERULAR FILTRATION RATES

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Limited sampling strategies (LSS) to estimate feline glomerular filtration rate (GFR) are poorly documented and mainly assessed in healthy cats and/or using only one clearance marker. This study aimed to propose LSS in cats with normal, decreased and increased GFR for plasma exo-iohexol, endo-iohexol and creatinine clearance. A combined plasma exogenous creatinine-iohexol clearance test was performed in 44 cats (16 hyperthyroid, 6 diabetic, 12 healthy, 10 with chronic kidney disease). The best LSS was determined by comparing 510 sampling time combinations to the entire 9 blood sampling times set for calculating AUC values by the trapezoidal rule. The maximum error was calculated for each best sampling timecombination.

Optimal sampling times for 2-sample plasma clearance are 60 and 360 minutes for endo-iohexol and 60 and 480 minutes for creatinine and exo-iohexol, with a maximum error of -36.9%, -24.6% and 33.8%, respectively. Optimal sampling times for 3-sample plasma clearance are 30, 180 and 600 minutes for creatinine and 30, 120 and 480 minutes for exo- and endo-iohexol, with a maximum error of 11.4%, -18.2% and 18.2%, respectively. Blood sampling timing is GFR marker dependent. The GFR estimate is more accurate for 3-sample compared to 2-sample plasma clearance for all markers. The error observed on GFR estimate was lower for LSS using creatinine as GFR marker.